

IN THE SPECIFICATION

Following is a marked-up version of each amended paragraph of the subject patent application. The Examiner is requested to delete the indicated paragraph and replace it with the amended paragraph. The location for each of the deleted and replaced paragraphs is also indicated.

The paragraph beginning on page 2, line 4 and ending on page 2, line 22 should be replaced as follows:

Although there are many types of data carried over a network, these can be generally categorized into two data types with respect to latency and other network performance aspects that can distort the signal, or render it unusable, at the receiving end. The first data type is relatively insensitive to the network performance and is able to accept~~except~~ whatever performance the network provides. For example, a file transfer application ideally prefers to have an infinite bandwidth (which is generally measured in bits or bytes per second) and a zero delay as the bytes or packets traverse their intended route. Under these conditions the file will reach its destination in the fastest and most expeditious manner. However, if there is degraded network performance because, for example, the available bandwidth decreases or the end-to-end delay increases, this will not substantially affect the file transfer application. The file will still arrive at the destination, albeit later than under ideal conditions. Thus the performance requirements for such applications can adapt to the available network resources. The network only promises to deliver the application packets, without guaranteeing any particular performance bound. These are also referred to as best-efforts networks.

The paragraph beginning on page 6, line 27 and ending on page 6, line 28 should be replaced as follows:

Figures 1A and 1B ~~is~~are a flowcharts illustrating the operation of the present invention; and

The paragraph beginning on page 7, line 2 and ending on page 7, line 9 should be replaced as follows:

The flowchart of Figures 1A and 1B implements four different scheduling schemes using a single architecture. These scheduling schemes include: strict priority, strict priority plus smooth deficit weighted round robin, bandwidth limited strict priority and smooth deficit weighted round robin. As will be discussed below in conjunction with the hardware implementation of the algorithm, the operator of the network resource implementing the scheduling algorithm of Figures 1A and 1B, can select the operative scheduling scheme.

The paragraph beginning on page 10, line 24 and ending on page 11, line 11 should be replaced as follows:

According to Figures 1A and 1B, an affirmative response from the decision step 80 continues processing to a step 84 where the priority class one active queue is checked and the data in that queue is served to the limit of the bandwidth allocated to priority class one. If data is in the active queue it is served, as indicated at a step 86, as follows. For example, assume there are 8 kilobits of data in the priority class one queue and that queue is assigned a bandwidth of 10 kbps. Also assume that the time interval for serving each of the queues is 500 msec. Then 5 kilobits of data from the priority one queue will be served during the first pass through the priority one class active queue; 3 kilobits will remain in the queue. During the time the active queue is served, incoming bits are stored in the pending queue. Incoming bits are also stored in the pending queue while other priority classes are being served. At the start of the next pass through the priority one active queue, the 3 kilobits of data remain in that queue and assume that 4 kilobits of additional data has been added to the pending queue. All the data is now transferred to the active queue for processing, that is, a total of 7 kilobits of data. But only 5 kilobits can be processed due to the bandwidth assignment of the first priority class.

The paragraph beginning on page 9, line 8 and ending on page 9, line 17 should be replaced as follows:

In a deficit weighted round robin scheme a counter is associated with each class. The counters are set to an initial value based on the class weight and the maximum number of packets that can be served during each round-robin iteration. As packets are served from each class, the counter is decremented and in some cases may fall below zero. When a class counter is less than zero, the class is no longer served. At a predetermined time interval, a predetermined value is added to all class counters. Now all the classes with positive counter

value are served and the counters decremented as packets are processed. The process then repeats at each predetermined interval.

The paragraph beginning on page 9, line 27 and ending on page 9, line 31 should be deleted as follows:

~~Further details of the smoothed deficit weighted round robin scheduling scheme are described in commonly owned patent application entitled, "Smooth Deficit Weighted Round Robin Scheduling," filed on _____ and assigned application number _____ (Attorney's docket number 123108).~~

The paragraph beginning on page 11, line 14 and ending on page 11, line 22 should be replaced as follows:

Returning to Figures 1A and 1B, from the step 86 where the priority class one data is served subject to the bandwidth limitations, processing returns to a decision step 88 to determine whether any packets are in the active queue of priority class two. Those packets are served at a step 9490 as required. The process then moves to a decision step 92 to determine whether any packets are in the priority class three active queue. Any such packets are served at a step 92 and the process continues until all the priority classes are served, after which the process returns to the decision step 84.